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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/916,714	07/26/2001	Neil John Hursey	NAI1P016/01.065.01	8235
28875	7590	01/24/2005	EXAMINER	
Zilka-Kotab, PC P.O. BOX 721120 SAN JOSE, CA 95172-1120			AMSBURY, WAYNE P	
			ART UNIT	PAPER NUMBER
			2161	

DATE MAILED: 01/24/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 09/916,714	Applicant(s) HURSEY ET AL.	
	Examiner Wayne Amsbury	Art Unit 2161	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 24 December 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-28 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-28 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 26 July 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>9/24/01</u> . | 6) <input type="checkbox"/> Other: _____ |

CLAIMS 1-28 ARE PENDING

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 4-6, 8-9, 17-19, 21-22 and 28 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

It is not clear in what way claim 5 (18) is a further limitation of claim 4 (17); in what way efficiency is improved. It is not clear in what way claims 4-6 (17-19) are further limitations of claim 2 (15), since it is the nature of a tree to divide information into nested subsets. It is not clear in what way claims 9-10 (22-23) are further limitations of claim 1 (14), since it is the nature of a tree to divide information into upper branch portions and lower branch portions and to search a tree by comparisons that move down the branch structure. It is not clear in what way claim 8 (21) is a further limitation of claim 4 (17) since signatures are themselves obfuscations.

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1, 14 and 27 are rejected under 35 U.S.C. 102(e) as being anticipated by Bates, US 6,721,721, 13 April 2004.

Bates is directed at least in part to storing virus information in a virus database [ABSTRACT; FIG 1 42] that is accessed by indexed-based and/or directory-based search engines [COL 6 lines 53-65]. Official Notice is taken that indexes and directories are tree-structured (hierarchical). The Specification BACKGROUND provides further evidence of this. Thus Bates identifies a list of virus information combined in a tree structure, and compares data against the tree information for virus information recognition. Bates teaches that digital signatures are applied to virus checking [COL 15 lines 60-62; COL 16 lines 27-30]. Clearly Bates provides a method [claim 1], system [claim 14] and computer program product [claim 27] to support these operations, as noted at COL 3 lines 7-17.

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation

under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claims 2-13, 15-26 and 28 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bates, US 6,721,721, 13 April 2004 and Arnold et al (Arnold), US 5,440,723, 8 August 1995.

Bates does not explicitly address the character nature of digital signatures, wildcards, and the like. Arnold is directed to identifying virus signatures stored in a database [ABSTRACT; COL 9 lines 57-60] using wildcard bytes and character strings but does not explicitly teach that a virus signature database may take a tree form. It **would have been obvious** to one of ordinary skill in the art at the time of the invention to apply tree structured databases to Arnold as taught by Bates because they were well known in the art and support efficient searching [Bates Col 6 lines 53-65]. Alternatively, **it would have been obvious** to one of ordinary skill in the art at the time of the invention to incorporate the teachings of Arnold into the system of Bates because wildcard bytes can be used to provide a match with any code byte appearing in a virus [COL 1 lines 55-63] and to apply character strings in order to filter out invariant sections of viruses [COL 7 line 59 to COL 8 line16].

The combination of Bates and Arnold teach the invention essentially as specified in claims 2-10 (15-23) and as explicitly set forth in the analyses above for each limitation of these claims.

Claim 11 (24) is a description of the process necessary in order to search a tree-structured database. Claim 12 (25), is a restatement of the recognition of a virus signature during search of the database, and claim 13(26) is a restatement of the failure to find a signature in the database.

The elements of claim 28 have been rejected in the analysis above and this claim is rejected on that basis.

4. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Wayne Amsbury whose telephone number is 571-272-4015. The examiner can normally be reached on M-F 6-18:30 FIRST WEEK.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Safet Metjahic can be reached on 571-272-4023. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Art Unit: 2161

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

WPA


WAYNE AMSBURY
PRIMARY PATENT EXAMINER